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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/706,696

11/12/2003

Herve Varin

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8604

826

7590

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EXAMINER

CHARLES, MARCUS

ART UNIT

PAPER NUMBER

3682

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/706,696	<b>Applicant(s)</b> VARIN ET AL.	
	<b>Examiner</b> Marcus Charles	<b>Art Unit</b> 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

This action is responsive to the amendment filed 12-19-2007, which has been entered.

Claims 1-17 are currently pending.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. (4,981,462). in view of Kitahama et al. (4,904,232). In claims 1-3, 5 and 15, White et al. discloses a transmission belt (figs. 3 and 4) comprising a plurality of v-ribs (38) made from a single material having flat sides faces (44) and round ridges that present a convex curvilinear profile. White et al. also discloses the tip of the rib has a radius of curvature but fails to disclose the actual range of the radius. Kitahama et al. discloses a belt having ribs (16) with tips (23) having a radius of curvature in the range of approximately 0.5 mm to 1.1 mm (col.3, lines 43-47) and the height of the rib is 2.5mm and the height of the inner portion, which is the vertical height of the curve section of the rib is approximately 0.8mm, which indicate that there vertical height of the flat surface of the rib is approximately 1.7 mm. However, since the included angle is approximately 20-80 degrees, the outside angle is approximately 50-60 degrees. Therefore, the height of the flat side is about  $1.7/\sin(90-1/2\theta)$ . One possible value is when  $\theta$  is 80 degrees, the height is approximately 1.73 mm

which is within the range of the claimed invention. Kitahama et al. disclose that the values are important in increasing the lifetime ratio of the belt (col. 5, lines 23-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the belt of White et al. so that the rib tip has a convex curvilinear radius, the height of the rib and the length of the flat side that fall within the ranges as disclosed by Kitahama et al. in order to increase the lifetime ratio of the belt.

Furthermore, it would have been a matter of obvious design choice based on the size of the belt and pulley such that one of ordinary skill in the would be able to make the radius of the convex curvilinear profile to be greater than 1.1 mm and less that or equal to 1.5 mm, the length of the flat side to be between 0.7mm and 1.7 mm and the height of the rib to be between 1.8 and 2.2 mm. In addition, Kitahama et al. do not disclose the ranges as set forth in claims 6-10 and 16-17. It is well known in the art that the radius of the tip of the rib and the length of the flat side of the rib is dependent on the size of the belt and the belt and pulley. Therefore, such dimensions are subjective and relative.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the belt of White et al. so that the rib tip has a convex curvilinear radius, the height of the rib and the length of the flat side that fall within the ranges of the claimed invention, since it has been held that where the general conditions of a claim are disclose in the prior art, discovering the optimum ranges involves routing skill ion the art. *In re Aller*, 105 USPQ 233. Furthermore, it would have been a matter of obvious design choice based on the size of the belt and pulley such that one of ordinary skill in the would be able to make the radius of the convex curvilinear profile to be

greater than 1.1 mm and less than or equal to 1.5 mm, the length of the flat side to be between 0.7mm and 1.7 mm and the height of the rib to be between 1.8 and 2.2 mm.

In claim 4, note the curvilinear profile is a circle (fig. 2).

In claim 11, note the curvilinear profile is tangential to the side face at the point of contact (22, 125 in fig. 2).

In claim 12, it is apparent that the belt could be K-type belt.

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al. in view of Kitahama et al. of as applied to claim 1, above, and further in view of Waugh (4,011,766). White et al. do not disclose that the V-ribs of the V-belt are machined or molded. Waugh discloses that it is well known for the V-ribs of the V-belt to be machined or molded (col.6, lines 22-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to produce the v-ribs of White et al. device by molding or machine in view of Waugh in order to manufacturing cost, reduce production time and to avoid shaving/finishing after manufacturing.

### ***Response to Arguments***

3. Applicant's arguments filed 12-19-2007 have been fully considered but they are not persuasive. Applicant contended that the office action has not proven a prima facie case of obviousness because neither references cited nor the acknowledge the generally available in the art provides any suggestion to modify or combine the prior in a manner suggested by the office. Applicant also stated that that White fails to disclose the claimed ridges and in an attempt to cure the deficiency of White the office relies on Kitahama for the teaching of the radius of the belt. In response, it should be noted that

Art Unit: 3682

Kitahama is the primary reference that teaches the claimed radius. The reference to White was used to include the single elastomer material which is lacking in Kitahama. It should be noted that both Kitahama and white disclose a belt having the type of geometry. Kitahama provide for a belt having multiple layers while white teaches a single layer.

4. Applicant argues that there no motivation to modify the multiple layers of Kitahama to include a single layer because Kitahama clearly disclose the advantage of having multiple layers to that of none single layer. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill in the art would find it possible to modify the belt of Kitahama to include a single layer because it is well known in the art to form a belt of a single material and having a single material with the appropriate hardness would be suitable to replace the multiple materials of Kitahama. In addition, as well known in the art, having different material creates a weak joint which is susceptible to heat and decrease inflexibility of the belt. Therefore, such deficiency would be corrected by a single layer.

Regarding arguments relating to the mean radius of curvature, it should be noted that applicant has not disclose as to why these values are more crucial or important than other similar values disclosed in the description. It appears that these values are randomly selected. Therefore for reasons given above, the rejection is deemed proper.

***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus Charles whose telephone number is (571) 272-7101. The examiner can normally be reached on Monday-Thursday 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ridley Richard can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marcus Charles/  
*Marcus Charles*  
Primary Examiner, Art Unit 3682